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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/785,044	02/14/2001	Edwin C. Iliff	ILIFF.015A6	4724

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EXAMINER
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HWANG, JOON H

ART UNIT	PAPER NUMBER
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2166

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/785,044

Applicant(s)

ILIFF, EDWIN C.

Examiner

Joon H. Hwang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/24/05, 11/10/05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. The applicant amended claims 1 and 6 and added new claims 10-17 in the amendment received on 10/24/05.

The claims 1-17 are pending.

### ***Response to Arguments***

2. Applicant's arguments filed in the amendment received on 10/24/05 have been fully considered but they are not persuasive.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

The applicant argues that Gray does not teach a preferred symptoms and an alternative symptoms. However, the examiner respectfully traverses. Claim 1 recites a particular disease object includes a preferred weight for one or more preferred symptoms and an alternative weight for one or more alternative symptoms. A symptom is recognized as a preferred symptom or an alternative symptom with respect to a particular disease. Gray discloses a benign bone tumor (a disease) associated with a plurality of symptoms, such as localized pain, pain more severe at night, palpable mass, etc. (lines 25-48 in col. 6). Gray discloses the palpable mass symptom is salient for the benign bone tumor diagnosis than any of the other symptoms. Gray discloses

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assigning a weight of 4 on a scale from 1 to 5 to the palpable mass symptom and a weight of 1 to the other symptoms for the benign bone tumor diagnosis. This teaches the palpable mass symptom as a preferred symptom and the other symptoms as alternative symptoms. Therefore, the applicant's argument is not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Branson and Gray disclose a medical diagnosis expert system. Branson discloses a plurality of objects related to the medical diagnosis system, such as symptoms (lines 17-39 in col. 20 and fig. 16). Branson does not explicitly disclose a disease and assigning a weight to a symptom. However, Gray discloses a plurality of diseases associated with a plurality of symptoms in a medical diagnosis system (lines 7-24 in col. 6 and line 23 in col. 2 thru line 41 in col. 3) and assigning a weight to symptoms (lines 25-48 in col. 6) in order to present an accurate diagnosis (lines 50-54 in col. 1). Therefore, based on Branson in view of Gray, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize disease data and associations with symptom data of Gray to the system of Branson in order to present an accurate diagnosis.

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"Reason, suggestion, or motivation to combine two or more prior art references in single invention may come from references themselves, from knowledge of those skilled in art that certain references or disclosures in references are known to be of interest in particular field, or from nature of problem to be solved;" Pro-Mold and Tool Co. v. Great Lakes Plastics Inc. U.S. Court of Appeals Federal Circuit 37 USPQ2d 1626 Decided February 7, 1996 Nos. 95-1171, -1181.

The applicant argues that Branson does not teach each symptom object has underlying objects used to establish the symptom. However, the examiner respectfully traverses. Claim 5 merely recites underlying objects. Branson in fig. 16 shows, as an example, "Fever" having underlying method objects. Therefore, the applicant's argument is not persuasive.

### ***Claim Objections***

3. Claims 6, 10, 12-13, and 17 are objected to because of the following informalities:

- "the diagnosis" in 2nd line of claim 6 should be "a diagnosis";
- "the same patient" in 10th line of claim 11 should be "a same patient";
- "the alternative weights" in 1st line of claim 12 should be "the alternative weight";
- "the alternative weights" in 1st line of claim 13 should be "the alternative weight"; and
- "the symptom" in 2nd line of claim 17 should be "a symptom".

Appropriate correction is required.

***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 6-8 and 11-17 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. "A system" in 1<sup>st</sup> line of claim 6 is insufficient to render the claims tangibly embodied in a manner so as to be executable. Also, see MPEP 2106 (IV)(B)(1)(a) and 2106 (IV)(B)(2)(a). Since claims 7-8 incorporate the deficiencies of claim 6, they are likewise rejected. "A method" in 1<sup>st</sup> line of claim 11 is insufficient to render the claims tangibly embodied in a manner so as to be executable. Also, see MPEP 2106 (IV)(B)(2)(b). Since claims 12-17 incorporate the deficiencies of claim 11, they are likewise rejected.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-5 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Branson et al. (U.S. Patent No. 6,598,035) in view of Gray (U.S. Patent No.

6,149,585).

With respect to claim 1, Branson discloses an object-oriented programming system for a medical diagnosis expert system (lines 15-39 in col. 2 and line 56 in col. 12 thru line 14 in col. 13). Branson discloses providing a plurality of symptom objects (lines 17-39 in col. 20 and fig. 16). Branson discloses symptom objects may be archived (i.e., stored in a storage device, lines 11-55 in col. 12 and fig. 8) and available for reuse (lines 15-39 in col. 2). Branson does not explicitly disclose a disease object. However, Gray discloses a plurality of disease associated with a plurality of symptoms in a medical diagnostic enhancement system (lines 7-24 in col. 6 and line 23 in col. 2 thru line 41 in col. 3). Gray also discloses assigning a weight for each symptom, wherein a particular disease includes a preferred weight for one or more preferred symptoms and an alternative weight for one or more alternative symptoms, wherein the alternative symptoms are selected from a set of symptoms (lines 25-48 in col. 6). Therefore, based on Branson in view of Gray, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teaching of Gray to the system of Branson in order to present an accurate diagnosis.

With respect to claim 2, Branson teaches assigning a new name for a symptom object that is reused (fig. 16 and lines 17-39 in col. 20).

With respect to claim 3, Branson does not explicitly disclose a database for storing symptom objects. However, Gray discloses a utilization of a database for storing symptom data (line 23 in col. 2 thru line 41 in col. 3). Therefore, the limitations of claim 3 are rejected in the analysis of claim 1 above, and the claim is rejected on that

basis.

With respect to claim 4, Branson discloses a network (fig. 8). The limitations of claim 4 are rejected in the analysis of claim 3 above, and the claim is rejected on that basis.

With respect to claim 5, Branson discloses each symptom object has underlying objects used to establish the symptom (fig. 16).

With respect to claim 9, Branson discloses objects perform their own tasks and call upon other objects to perform their tasks at the appropriate time (lines 51-62 in col. 6 and lines 47-55 in col. 10). The limitations of claim 9 are rejected in the analysis of claim 1 above, and the claim is rejected on that basis.

The limitations of claim 10 are rejected in the analysis of claim 1 above, and the claim is rejected on that basis.

8. Claims 11-13 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iliff (U.S. Patent No. 5,868,669) in view of Gray (U.S. Patent No. 6,149,585).

With respect to claim 11, Iliff teaches providing a plurality of disease objects, each disease object associated with a plurality of symptom objects (i.e., diagnoses and symptoms, each diagnosis associated with symptoms in MDATA system, lines 24-35 in col. 12, lines 38-45 in col. 21, and line 24 in col. 35 thru line 49 in col. 42, the MDATA system is written in object-oriented program language, such as C++, lines 7-16 in col. 14, therefore teaching object). Iliff teaches assigning a weight for each symptom



(i.e., weighted symptom questions, lines 24-34 in col. 60, lines 45-48 in col. 61, and lines 28-39 in col. 62). Iliff teaches symptoms are selected from a set of archived symptoms objects that are available for reuse (lines 6-29 in col. 13 and fig. 6). Iliff teaches a particular preferred symptom has one or more related alternative symptoms that represent different approaches for eliciting further diagnostic information related to the same patient health item (i.e., diagnostic screen questions, migraine screening questions, and migraine confirmation questions, line 24 in col. 35 thru line 49 in col. 42). Iliff does not explicitly disclose a preferred weight and an alternative weight. However, Gray discloses a plurality of disease associated with a plurality of symptoms in a medical diagnostic enhancement system (lines 7-24 in col. 6 and line 23 in col. 2 thru line 41 in col. 3). Gray also discloses assigning a weight for each symptom, wherein a particular disease includes a preferred weight for one or more preferred symptoms and an alternative weight for one or more alternative symptoms, wherein the alternative symptoms are selected from a set of symptoms (lines 25-48 in col. 6). Therefore, based on Iliff in view of Gray, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teaching of Gray to the system of Iliff in order to present an accurate diagnosis.

With respect to claim 12, Gray further teaches weights can be different (lines 25-48 in col. 6). Therefore, the limitations of claim 12 are rejected in the analysis of claim 11 above, and the claim is rejected on that basis.

With respect to claim 13, Gray further teaches weights can be different (lines 25-48 in col. 6). Therefore, the limitations of claim 13 are rejected in the analysis of claim

11 above, and the claim is rejected on that basis.

With respect to claim 15, Iliff teaches the set of archived symptom objects is stored in a database (fig. 1, fig. 3, and fig. 6).

With respect to claim 16, Iliff teaches accessing the set of archived symptom objects stored in the database via a global computer network (fig. 1).

With respect to claim 17, Iliff teaches each symptom object has underlying objects used to establish the symptom (i.e., a node map, lines 1-7 in col. 15).

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iliff (U.S. Patent No. 5,868,669) in view of Gray (U.S. Patent No. 6,149,585), and further in view of Branson et al. (U.S. Patent No. 6,598,035).

With respect to claim 14, Iliff and Gray disclose the claimed subject matter as discussed above except assigning a new name for a symptom object that is reused. However, Branson teaches assigning a new name for a symptom object that is reused (fig. 16 and lines 17-39 in col. 20) in order to provide customization and extension of an object (lines 21-57 in col. 4). Therefore, based on Iliff in view of Gray, and further in view of Branson, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teaching of Branson to the system of Iliff in order to provide customization and extension of an object.

#### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

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form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Iliff (U.S. Patent No. 5,868,669).

With respect to claim 6, Iliff teaches an object based automated diagnostic system comprising a plurality of objects which interact to determine the diagnosis of a patient, wherein the objects include at least two of: a disease object, a symptom object, a valuator object, a question object, a node object, and a candidate object (i.e., diagnoses and symptoms, each diagnosis associated with symptoms in MDATA system, lines 24-35 in col. 12, lines 38-45 in col. 21, and line 24 in col. 35 thru line 49 in col. 42, the MDATA system is written in object-oriented program language, such as C++, lines 7-16 in col. 14, therefore teaching object).

With respect to claim 7, Iliff teaches the objects include a plurality of disease objects and a plurality of symptom objects (i.e., diagnoses and symptoms, each diagnosis associated with symptoms in MDATA system, lines 24-35 in col. 12, lines 38-45 in col. 21, and line 24 in col. 35 thru line 49 in col. 42, the MDATA system is written in object-oriented program language, such as C++, lines 7-16 in col. 14, therefore teaching object).

With respect to claim 8, Iliff teaches an engine object to coordinate the other objects (i.e., a node map, lines 1-7 in col. 15).

***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joon H. Hwang whose telephone number is 571-272-4036. The examiner can normally be reached on 9:30-6:00(M~F).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain T. Alam can be reached on 571-272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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3/3/06

  
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